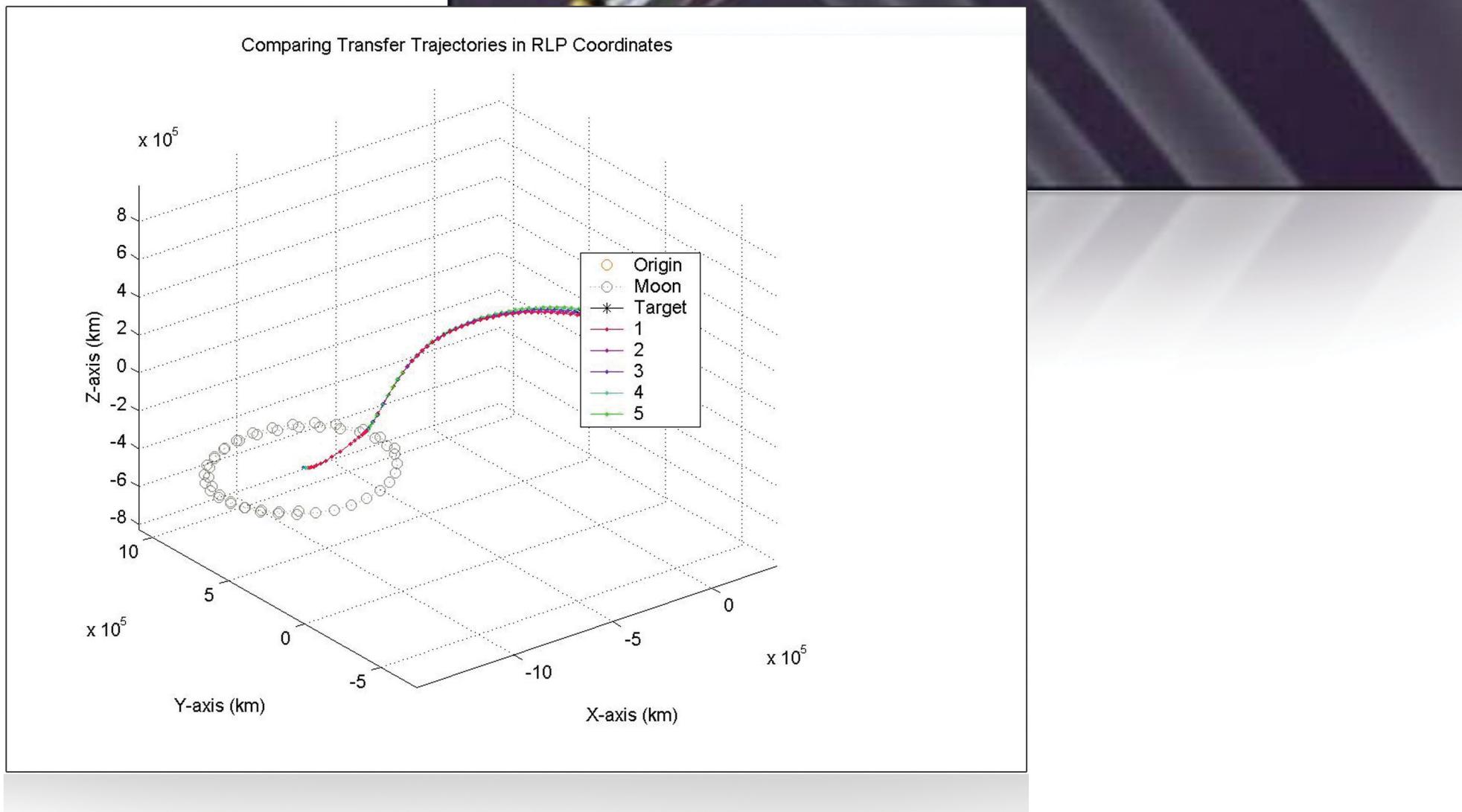
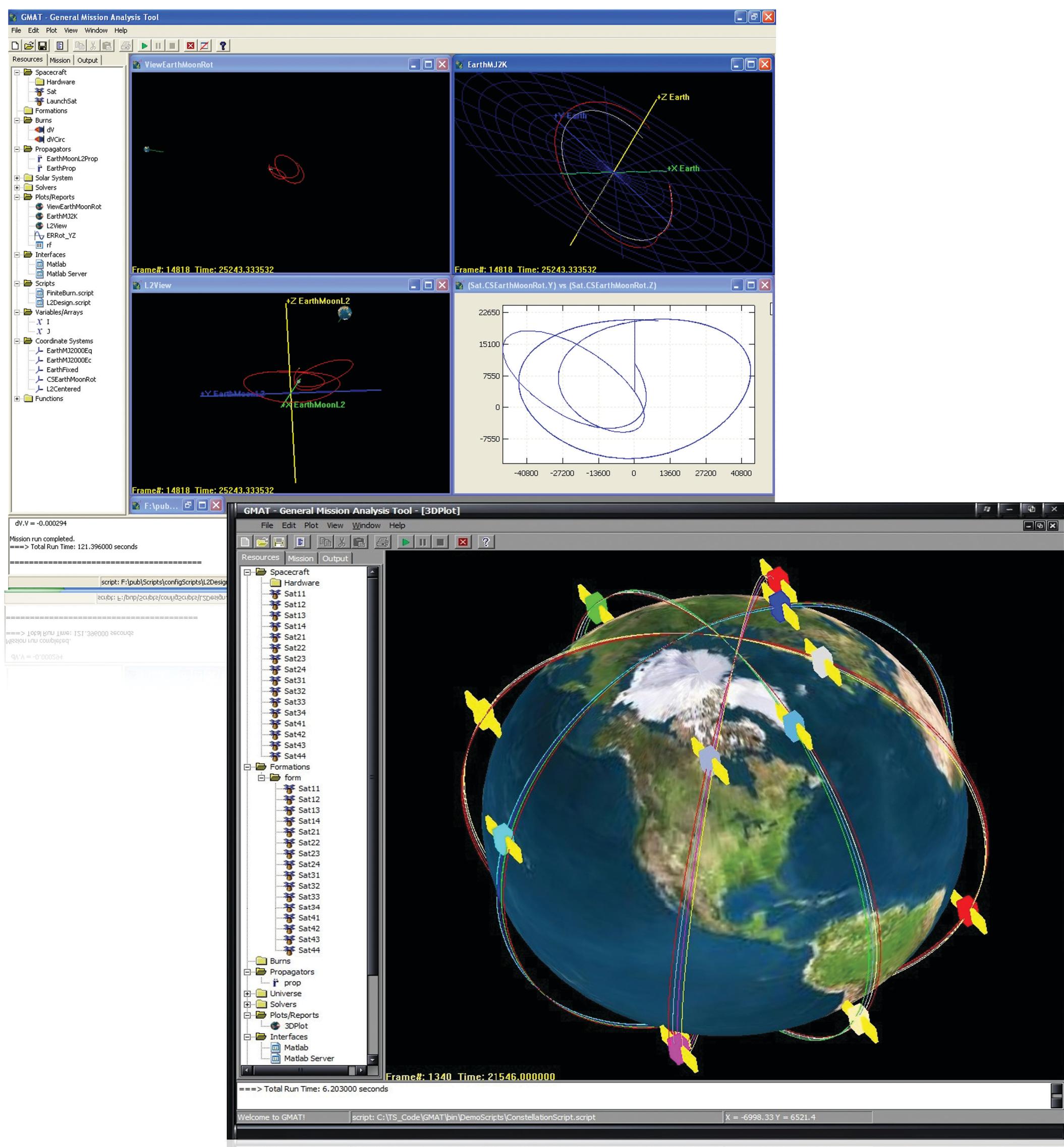


# MISSION APPLICATIONS BRANCH

## CODE 583

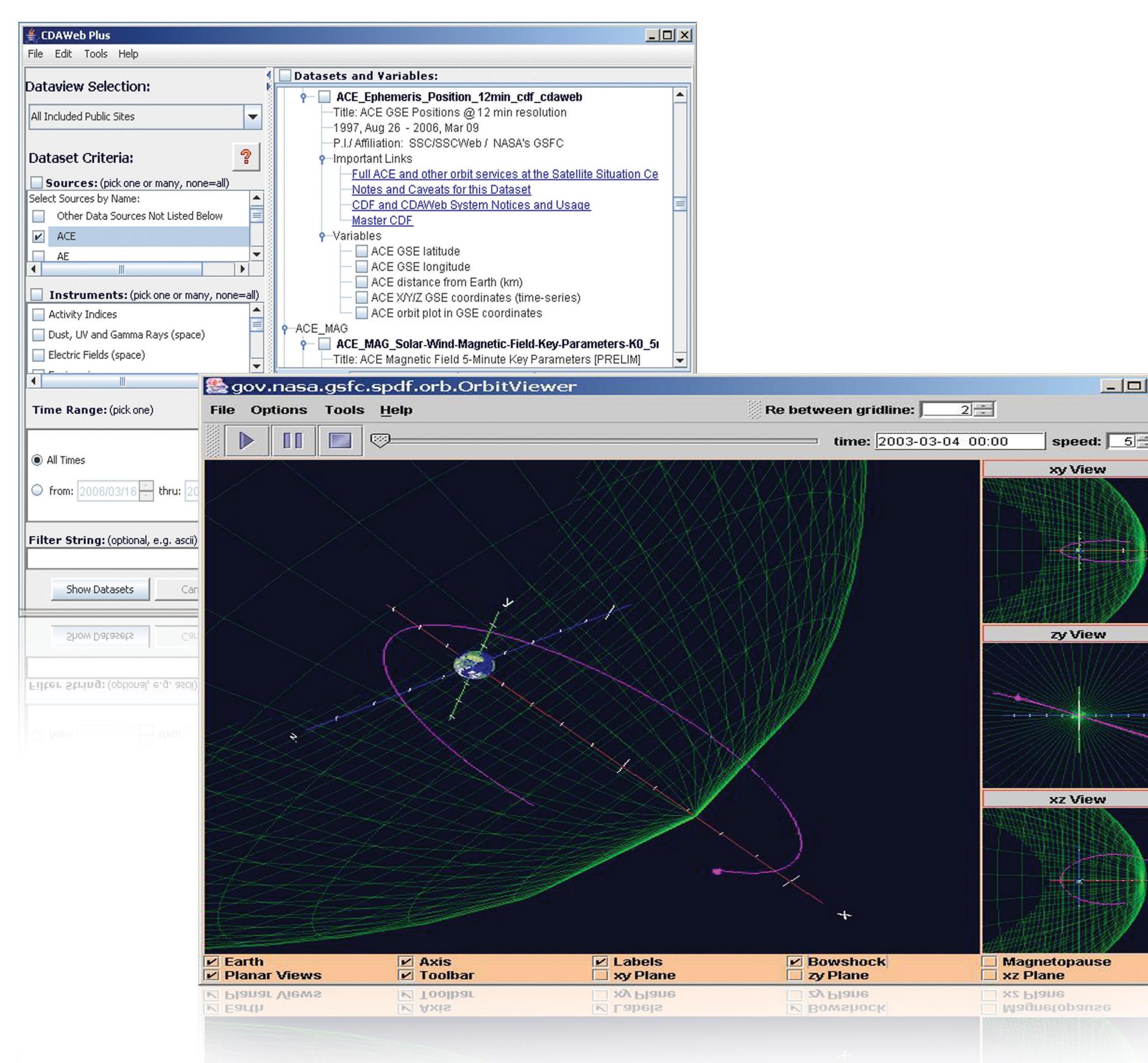
### GMAT

The Goddard Mission Analysis Tool (GMAT) is a collaborative development effort between Goddard Space Flight Center and Thinking Systems, Inc. GMAT has been designed to support missions involving distributed spacecraft systems, efficiently propagating the spacecraft either singly or coupled, in flight regimes ranging from low Earth orbit to lunar applications, interplanetary trajectories, and other deep space missions.



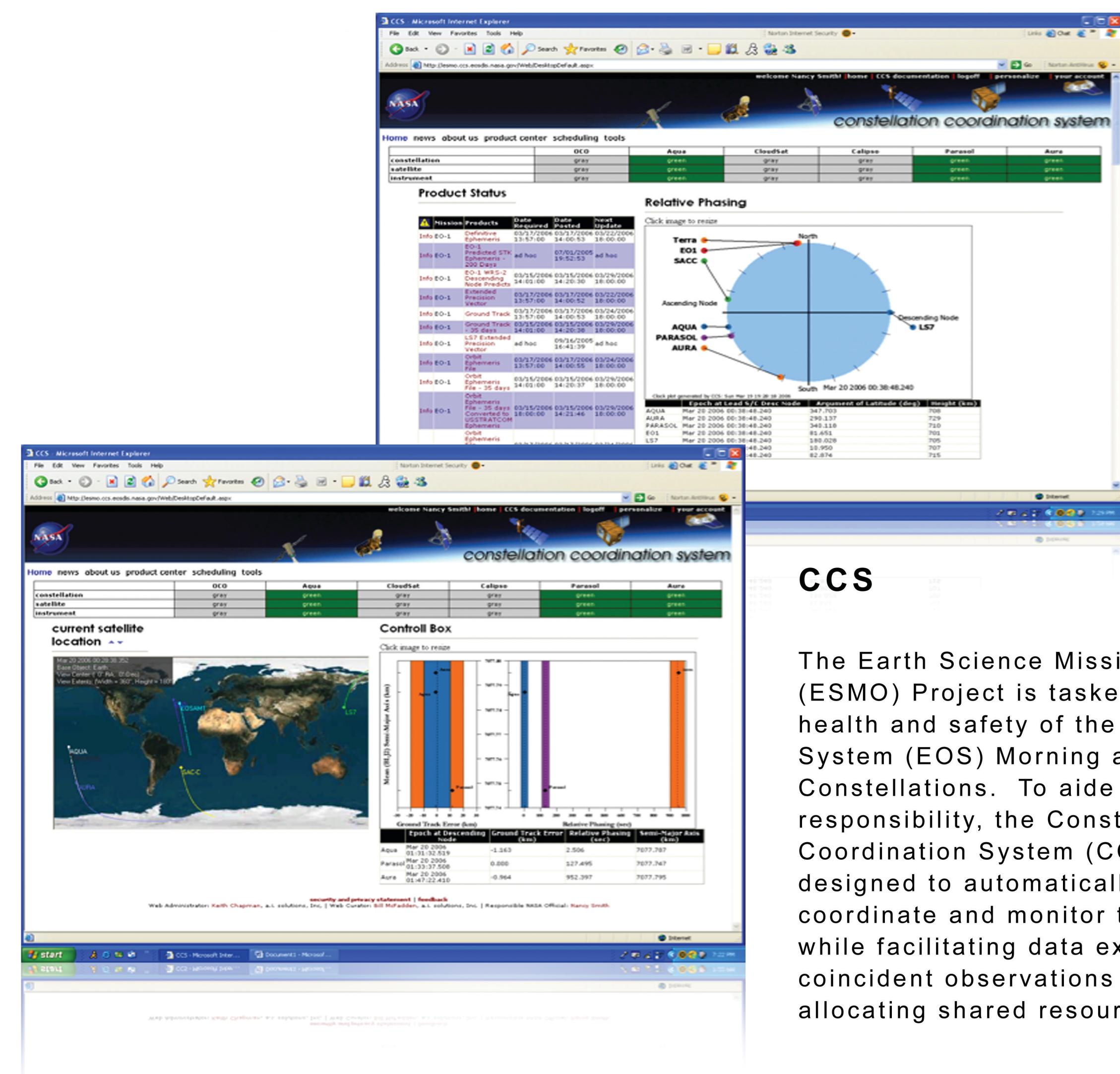
### PFFIAT

The Precision Formation Flying Integrated Analysis Tool (PFFIAT) ties together the dynamics of satellite formations with interferometer and/or optical performance metrics to provide an immediate first order assessment of mission concepts, and support Precision Formation Flying mission design. Users can quickly configure new or modified scenario scripts through a library of analysis tools. The tool's architecture allows for plug-in use of existing integrators, control laws, and force models.



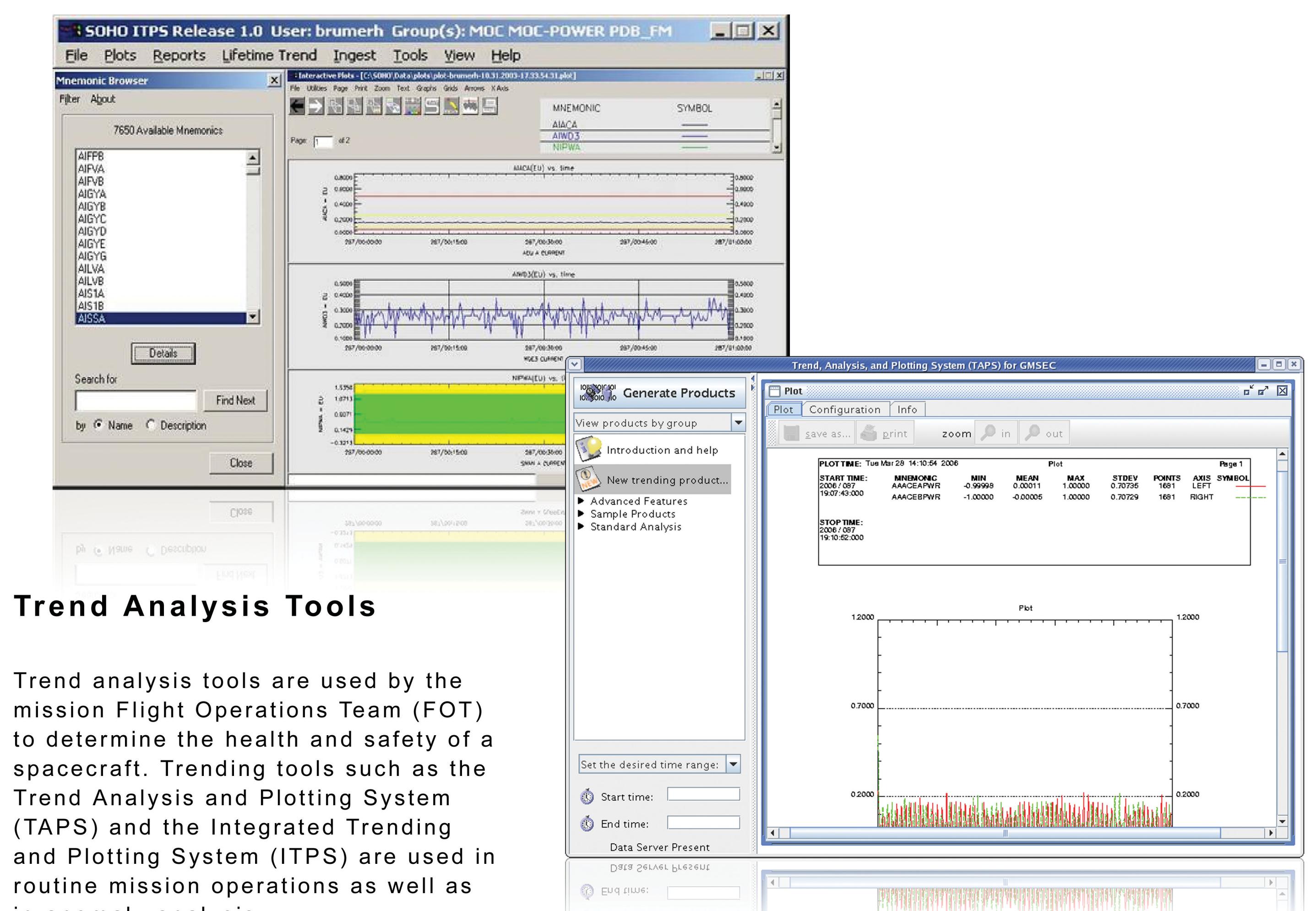
### SPDF

The Space Physics Data Facility (SPDF) leads in the design and implementation of unique multi-mission and multi-disciplinary data services, innovative ground data system concepts, educational programs and cross-cutting data. The SPDF conducts modeling and visualization research to strategically advance NASA's solar-terrestrial program and our understanding of the Sun-Earth system.



### CCS

The Earth Science Mission Operations (ESMO) Project is tasked to ensure the health and safety of the Earth Observing System (EOS) Morning and Afternoon Constellations. To aide in this responsibility, the Constellation Coordination System (CCS) has been designed to automatically and routinely coordinate and monitor the constellations, while facilitating data exchange and coincident observations opportunities and allocating shared resources.



### Trend Analysis Tools

Trend analysis tools are used by the mission Flight Operations Team (FOT) to determine the health and safety of a spacecraft. Trending tools such as the Trend Analysis and Plotting System (TAPS) and the Integrated Trending and Plotting System (ITPS) are used in routine mission operations as well as in anomaly analysis.